

CALIFORNIA ENERGY COMMISSION

1516 NINTH STREET
SACRAMENTO, CA 95814-5512



November 7, 2000

Mr. Mark Harrer
Southern Energy California
1350 Treat Bl.
Walnut Creek, CA 94596

Dear Mr. Harrer:

POTRERO POWER PLANT UNIT 7 PROJECT DATA REQUESTS

Pursuant to Title 20, California Code of Regulations, section 1716, the California Energy Commission staff requests the information specified in the enclosed data requests. The information requested is necessary to: 1) more fully understand the project, 2) assess whether the facility will be constructed and operated in compliance with applicable regulations, 3) assess whether the project will result in significant environmental impacts, 4) assess whether the facilities will be constructed and operated in a safe, efficient and reliable manner, and 5) assess potential mitigation measures.

Enclosed are data requests in the area of air quality, biological resources, cultural resources, traffic and transportation, visual resources, power plant reliability and efficiency, geology and paleontology, noise, transmission system engineering, and soil and water resources. Written responses to the enclosed data requests are due to the Energy Commission staff on or before December 5, 2000. Staff has scheduled a tentative Data Request Workshop in San Francisco on November 20, 2000.

If you are unable to provide the information requested, need additional time to provide the information, or object to providing it, you should send a written notice to both Commissioner Robert Pernell, and to me within 15 days of receipt of this notice. The notification must contain the reasons for not providing the information, the need for additional time and the grounds for any objections (see Title 20, California Code of Regulations, section 1716 (e)).

If you have any questions regarding the enclosed data requests, please call me at (916) 653-0159.

Sincerely,

Marc S. Pryor
Energy Facility Siting Project Manager

Enclosure

cc: Potrero Power Plant Unit 7 Project Proof of Service List
Docket (00-AFC-4)

POTRERO POWER PLANT UNIT 7 PROJECT
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TECHNICAL AREA: Air Quality
AUTHOR: Tuan Ngo

BACKGROUND

Sulfur Dioxide Emission Impacts:

Table 8.1-11 of the Application for Certification (AFC) indicates that the project's sulfur dioxide (SO₂) emissions are 51.9 tons per year (TPY), which are less than 100 TPY. The AFC concludes, therefore, that offsets for SO₂ are not required per the Bay Area Air Quality Management District's (District) rules and regulations. However, because the project area is non-attainment for PM₁₀, and SO₂ is a precursor to PM₁₀, Energy Commission staff believes that appropriate mitigation for the project's SO₂ emissions may be necessary if the project's SO₂ emissions contribute to a significant secondary PM₁₀ impact. An analysis of the project's SO₂ emissions formation of secondary PM₁₀ needs to be provided.

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1. Please provide an analysis showing the project's SO₂ emissions contribution to the formation of secondary PM₁₀ and whether that contribution constitutes a significant air quality impact.
2. If the project's SO₂ emissions contribution to the formation of secondary PM₁₀ (sulfates) is significant, please identify the necessary mitigation measures such as offsets, and a discussion of whether such mitigation measures are effective to reduce such impacts to a level of insignificance.

BACKGROUND

Confidentiality of Offsets:

In the AFC, Southern Energy California (SECAL) requests that offsets be handled under a confidential basis. Because the Energy Commission staff needs to provide an analysis on whether such offsets are appropriate and effective in mitigating the project emission increases, the confidentiality of the offsets will prevent staff from a timely discussion of the effectiveness of the mitigation in a public forum.

DATA REQUEST

3. Please reconsider the confidential request for the offset package. Please provide staff and the public a separate package that is free of sensitive information, but contains enough data on the amount and the location of offsets, so to avoid any possible delay of the project licensing.

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BACKGROUND

Cumulative Air Quality Impact Analysis:

A cumulative air quality impact analysis, which assesses the impacts of the project with other nearby projects that have been permitted, but not yet in operation, will need to be provided by the applicant.

DATA REQUEST

4. Please submit a list of the emission sources to be included in the cumulative air quality impacts analysis. Upon staff's approval of the list, please perform a cumulative impacts analysis using ISCST3 as proposed in the AFC.

BACKGROUND

SCR Performance Guarantee:

The AFC identifies that a selective catalytic reduction (SCR) system will be utilized to control nitrogen oxide (NOx) emissions to 2.5 part per million (ppm) over a 3-hour averaging time. Staff needs the following information to verify that the SCR system can maintain the NOx emissions at the proposed level.

DATA REQUEST

5. Please provide vendor information related to the control efficiency of the SCR system proposed for the combined cycle scenarios. The information should include the type of catalyst, the bed depth, operating temperature range, scheduled maintenance and catalyst replacement, and discussion of methods to be used to maintain the turbine NOx emissions on a continuous basis. If this information is not available, a manufacturer's performance guarantee can be used as a substitute.

BACKGROUND

CO Oxidation Catalyst Performance:

The AFC identifies that a high temperature carbon monoxide (CO) oxidation catalytic system will be employed to reduce CO emissions to 6 ppm and to maintain the turbine volatile organic compounds (VOC) emissions at 60 percent of the uncontrolled level. Staff needs the following information to verify that the CO oxidation catalyst can maintain the CO and VOC emissions at the proposed level.

DATA REQUEST

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6. Please provide the CO oxidation catalytic system manufacturer specifications or a manufacturer's performance guarantee.

BACKGROUND

Excess Emissions During Initial Commissioning:

The initial commissioning of the project may experience emissions that exceed the limits that would be required during normal operation. The AFC has not provided an estimate of how long the initial commission period would be, any excess emissions the project would cause, and whether any mitigation is proposed.

DATA REQUEST

7. Please provide the estimated length of each phase of initial commissioning, a detailed description of each type of commissioning tests, the estimated emissions, and any proposed mitigation.

BACKGROUND

Steam Power Augmentation:

The AFC indicates that power augmentation during the summer months may be used to boost the production of electricity. It is not clear that the estimated emissions and the modeling results provided in the AFC reflect the scenarios where power augmentation is utilized.

DATA REQUESTS

8. Please state whether or not steam is used in the power augmentation, and whether the emissions estimates and modeling results reflect the expected emissions during power augmentation.
9. If the emissions estimates and modeling results do not reflect the facility emissions during power augmentation period, please provide corrections for these results.

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BACKGROUND

Meteorological data:

SECAL provides a modeling analysis using meteorological data collected in 1992 at the Potrero facility. Since the meteorological data is eight years old, we believe that newer meteorological data should be used.

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10. Please provide an explanation as to why the 1992 meteorological data set was used in the air dispersion modeling analysis. Include in this discussion whether a more recent data set is available for use in the modeling analysis.
11. If newer meteorological data are not available, please provide an analysis showing that the data are still representative of the site. Such analysis should take into account any population or industrial growth at the area in the last eight years.

BACKGROUND

New violation of the state annual PM10 standard:

Table 8.1-15 of the AFC identifies that construction of the facility will result in an impact of 37.6 $\mu\text{g}/\text{m}^3$ on the state's annual PM10 air quality standard (30 $\mu\text{g}/\text{m}^3$). Since the area is attainment for such standard, the construction of the project will cause a new violation of the state's annual PM10 standard. The project construction impact is therefore significant. It is not clear of the steps SECAL will take to mitigate such impacts to a less than significant level.

DATA REQUEST

12. Please provide mitigation steps that SECAL will take to ensure that the construction of the project will not cause a new violation of the state's annual PM10 standard.

BACKGROUND

New violation of the state 1-hr NO2 standard:

Table 8.1-15 of the AFC identifies that construction of the facility transmission line will result in an impact on the state's 1-hour NO2 standard of 346.3 $\mu\text{g}/\text{m}^3$. This construction impact, when added to the NO2 background concentration of 152 $\mu\text{g}/\text{m}^3$, will be 498 $\mu\text{g}/\text{m}^3$. This impact will cause a new violation of the state's 1-hr NO2 standard (470 $\mu\text{g}/\text{m}^3$). The transmission line's construction impact is therefore

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significant. It is not clear of the steps SECAL will take to mitigate such impacts to a less than significant level.

DATA REQUEST

13. Please provide mitigation steps that SECAL will take to ensure that the construction of the project's transmission line will not cause a new violation of the state's 1-hr NO₂ standard.

BACKGROUND

The project NO₂ impact exceeding significant level for PSD review

The District's Regulation 2, Rule 2-2-414 "PSD Air Quality Analysis" requires that a new major project must demonstrate that the project emissions will not cause, or contribute to, a violation of an air quality standard or exceedance of any applicable PSD increment. The rule also defines that a facility is considered to cause or contribute to a violation of an air quality standard when the increase in emissions would cause a significant air quality impact. The District's Rule 2-2-233 defines a significant air quality impact when an ambient concentration, resulting from the facility emissions, exceed a pre-defined value for PM₁₀, SO₂, NO₂ or CO listed in that rule. For the 1-hr NO₂ standard, the significant threshold is listed as 19 µg/m³ in Rule 2-2-233. The project normal operation will result in an impact of 110 µg/m³ on the 1-hr NO₂ standard, which is higher than the significant threshold listed in Rule 2-2-233. Therefore, an analysis must be performed to demonstrate that the project will comply with the requirements of the District Rule 2-2-414.

DATA REQUEST

14. Please provide an analysis to demonstrate that the project will comply with the requirements of District Rule 2-2-414.

BACKGROUND

Some of the subscripts provided in AFC Table 8.1-15 in the Replacement pages 8.1-49 and 50 do not seem to match the footnotes provided below the table.

DATA REQUEST

15. Please review and reconcile these footnotes.

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TECHNICAL AREA: Biological Resources, Aquatic
AUTHOR: Noel Davis

BACKGROUND

To evaluate the impacts of the Potrero Power Plant Unit 7 Project on aquatic resources, the applicant has provided data from surveys done more than 10 years ago. Staff is concerned that aquatic resources in the project area may have changed to the extent that the data from earlier surveys are no longer valid. Staff has requested that the applicant collect additional biological data to validate that the data submitted with the application accurately reflects current baseline conditions.

DATA REQUEST

16. Please provide the strategy, protocol and schedule that the applicant intends to follow to collect the validating biological data on aquatic resources. Please also provide the schedule the applicant intends to follow to report the results of the surveys to staff.

BACKGROUND

Listed fish species that may occur in the vicinity of the Potrero Power Plant Unit 7 Project include winter-run chinook salmon (*Oncorhynchus tshawytscha*) (State and Federal Endangered), spring-run chinook salmon (State and Federal Threatened), and the Central California Coast Evolutionarily Significant Unit (ESU) and Central Valley ESU of steelhead (*Oncorhynchus mykiss*) (both Federal Threatened).

DATA REQUEST

17. Please describe the strategy the applicant intends to follow to coordinate with the National Marine Fisheries Service, and the California Department of Fish and Game to address the concerns of those agencies regarding impacts to listed salmonid species, and to determine whether consultation with the National Marine Fisheries Service under Section 7 of the Endangered Species Act may be required.

BACKGROUND

The Magnuson-Stevens Fishery Conservation and Management Act, as amended by the Sustainable Fisheries Act of 1996 (Public Law 104-267) established a new requirement to describe and identify essential fish habitat in each fishery management plan. The Magnuson-Stevens Act requires all federal agencies to consult with the National Marine Fisheries Service on all actions, or proposed actions, permitted, funded, or undertaken by the agency, that may adversely affect Essential Fish Habitat. Because the proposed project will require a permit from the U.S. Army Corps of

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Engineers under Section 404 of the Clean Water Act, consultation with the National Marine Fisheries service regarding project impacts to Essential Fish Habitat may be required. Species managed under the Coastal Pelagics Species Fisheries Management Plan that previous surveys have recorded in the project area include northern anchovy (*Engraulus mordax*) and Pacific sardine (*Sardinops sagax*). Fish species managed under the West Coast Groundfish Fishery Management Plan that have been observed in the project area include cabezon (*Scorpaenichthys marmoratus*), brown rockfish (*Sebastes auriculatus*), English sole (*Parophrys vetulus*) and starry flounder (*Platichthys stellatus*).

DATA REQUEST

18. Please describe the strategy the applicant intends to follow to coordinate with the U.S. Army Corps of Engineers and the National Marine Fisheries Service to address potential requirements regarding consultation about the impacts of the Potrero Power Plant Unit 7 project to Essential Fish Habitat.

BACKGROUND

In-water construction of the intake and discharge structures for the cooling water system has the potential to interfere with the migration of listed salmonid species.

DATA REQUEST

19. Please describe the equipment that will be used in San Francisco Bay and the duration and season of in-water construction.

TECHNICAL AREA: Biological Resources, Terrestrial

AUTHOR: Shari Koslowsky

BACKGROUND

The Power Plant site is located along the western shoreline of Central San Francisco Bay. It is bordered on the east by the San Francisco Bay and immediately surrounded on the north, west and south by industrial and commercial land use. Within a four mile radius of the plant site, several biological resource areas are located nearby - Heron's Head Park is located approximately 1.5 miles to the SSE, San Bruno Mountain is located approximately 4 miles to the SW and Central San Francisco Bay immediately adjacent to the site.

The biological communities that exist in these areas and other remnant patches of vegetation are directly affected by habitat loss and reduction in habitat quality. The sustainability of these areas is primarily dependent on landscape level processes such

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as fragmentation, connectivity of patches and invasion of exotic species. However, there are a myriad of secondary factors related to the physical and biological environment that also affect the quality of biological resources. Among these, changes in soil chemistry induced by dry and wet N deposition, and to a lesser degree sulfur (S) deposition, can significantly alter site ecology. In turn, these changes affect the composition of the biological community and biodiversity.

Currently one of the best studied of these potential effects in the Bay area is the effect of N deposition on serpentine habitats. Serpentine soils are characterized by low soil fertility and organic material, low calcium (Ca)/magnesium (Mg) ratio, locally high concentrations of metals like chromium (Cr), cobalt (Co) and nickel (Ni), and surficial and/or spatially variable acidity. As such, serpentine soils support several serpentine endemic species that are only found in this soil type and that can successfully out compete non-native plants that are poorly adapted to these conditions. Many of these plants and associated animal species are state or federally listed.

Of the biological resources in the area surrounding the Project site, the San Bruno Mountains support some of the few remaining remnants of serpentine habitat in the Bay area. The San Bruno Mountains have been included in the Recovery Plan for Serpentine Soil Species of the San Francisco Bay Area (USFWS, 1998). Assessing the impacts of nitrogen deposition as it relates to changes in soil fertility and the presence of endemic vegetation associated with state and federally listed animal species has been included among proposed measures for habitat restoration and management of serpentine habitats in the Bay area. The relationship between N deposition and alteration of grassland habitat and removal of grazing has also been studied by Weiss (1999) for the bay checkerspot butterfly.

Research on other effects of nitrogen as a component of acidification of soils and surface water is not well developed. The role of nitrogen in acid deposition is complicated by the role that this element has in biological processes. Preliminary staff investigations have indicated that the role of nitrogen in acid deposition has not been well studied in the Bay area and staff will continue its effort to determine whether the role of power plant NO_x emissions may contribute to cumulative impacts through this process.

Similarly, sulfur is not of primary concern in the Bay area. Sulfur in the atmosphere reaches the surface and ecological systems through wet and dry deposition. Climatic conditions in most parts of California do not favor wet depositional processes, but dry deposition can also be important. Dry deposition involves deposition of sulfate particles and gases to the land and vegetation surfaces (e.g., leaves) during periods without precipitation. Although sulfur emissions are not a significant industrial concern in California, because N and S can play similar roles in acidification and depletion of nutrient cations, staff will continue to look at the combined effect of these elements. In this context, it is noteworthy that Proceedings of the 1996 International Symposium on

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Air Pollution and Climate Change included research on the combined effects of acidification from N and S deposition, albeit in the southern portion of the state.

The AFC in Section 8.1.2.6 and Table 8.1-19 provides an analysis of the absolute deposition rates of N and S from the Potrero Plant at the nearest receptor in Point Reyes National Seashore located approximately 20 miles to the NW of the project site. These values were compared to USFS significance criteria for Class I Wilderness Areas in kg/ha-y. The predominant wind direction and plume direction for annual SO₂ and NO₂ concentrations is indicated to the NE of the project site in Figures 8.1-12 and 8.1-18, respectively, which is not in the path of the modeled receptor.

Section 8.2.2 of the AFC does not consider cumulative N and S deposition relative to existing deposition rates at the defined receptor or for other receptors of biological interest that are nearer to the site and/or within the modeled path of NO_x and SO₂ emissions.

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20. In Section 8.1.2.6 the Applicant models deposition rates at the nearest receptor located at Point Reyes National Seashore. Please complete the analysis using other biological receptors named in the AFC, including San Bruno Mountain, Heron's Head Park and San Francisco Bay that are located nearer to the Project site and/or within the emissions plume path.
21. Table 8.1-19 only considers the Maximum Project Impact at the modeled receptor at Point Reyes National Seashore. If the cumulative N and S deposition rates (existing plus project) would exceed USFS significance criteria, then this impact would be considered significant. For Table 8.1-19, please provide background N and S deposition at the modeled receptors (identified in data request 5, above) to determine the cumulative deposition rates in relation to U. S. Forest Service significance criteria.
22. Please analyze direct, indirect and cumulative impacts of N deposition on the quality of serpentine habitat located at San Bruno Mountains. If it is determined that N loading estimated from the Potrero Plant could produce changes in soil chemistry that could in turn change the quality of serpentine habitat for special status species, then this impact would be considered significant.

BACKGROUND

Even though the vegetation communities within the project survey boundaries are degraded, the applicant has not provided an adequate description of these areas nor

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indicated whether the vegetated areas will be directly or indirectly impacted during the construction and operation phases.

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23. Please indicate the acreage of the vegetated areas identified on Map 8.2-1.
24. Please indicate whether these areas will be directly or indirectly affected by the project and if so, the acreage of the affected area.
25. Section 8.2.1.4.2 states that there is no vegetation present along the transmission cable route; however Map 8.2-1 indicates a vegetated area immediately adjacent to this route at approximately the intersection of Army and Third Streets and vegetated areas within approximately 200 feet of the cable route between the creek channel and the Hunter's Point Power Plant. Please provide a description of the plant community present in this area and quantify the area that will be affected by the project.
26. For Figure 8.2-1, please indicate the source and date of the geographical references for the special-status species.
27. Section 8.2.1.2.2 states that little vegetation is present on the proposed transmission cable route, including an abandoned railroad R/W. Because abandoned railroad R/Ws can be refuges for sensitive plants, please provide an indication of how long the railroad has been abandoned and the extent of vegetation cover.
28. Table 8.2-1 indicates the presence of *Trifolium* sp. Since several species in this genus are listed by the California Native Plant Society and the California Department of Fish and Game, please identify the *Trifolium* species.

BACKGROUND

Section 8.2.2.1.1 indicates that dust and airborne emission controls applied during construction activities would ensure that the levels of airborne dust do not exceed thresholds considered harmful to wildlife or plants. The Applicant does not provide in this text a numerical comparison of emissions and thresholds for the construction phase of the project.

DATA REQUEST

29. Provide a numerical or other suitable comparison for dust emissions and thresholds to wildlife and/or plants to support the statement made in Section 8.2.2.1.1.

TECHNICAL AREA: Cultural Resources

AUTHOR: Roger Mason and Gary Reinoehl

BACKGROUND

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The applicant indicated that a record and literature search were performed at the Northwest Information Center at Sonoma State University and that a field reconnaissance of the power plant property and the underground transmission cable route was performed. Results of both these efforts for archaeological resources are provided (Replacement Pages 8.3-10 and -11). However, no results of these efforts with respect to above-ground historical resources, such as structures, buildings, and objects, were provided. Based on the Historical Background section (Replacement Page 8.3-9), it appears that at least one such structure, the brick structure housing Station A (constructed in 1901), is present. All such resources (buildings, structures, objects or districts) that may be altered or may have their immediate surroundings altered by this project in such a manner that the significance of the resource would be materially impaired, must be identified and evaluated for eligibility for the California Register of Historical Resources and the National Register Of Historic Places. Information on aboveground historical resources is necessary for staff to complete the analysis.

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30. Please provide an architectural and structural inventory report for the Potrero Power Plant Area of Potential Effect (APE) along with all associated maps, enclosures and attachments. The report should document all historical resources that will be directly impacted by the project and all historical resources whose immediate surroundings could be impaired by the project and copies of the completed DPR 523 form. The survey may be limited to an area one property deep (parcels immediately adjacent to the project area), unless there is an obvious potential historic resource not within the specified one property limit that may be impacted. The inventory report should be completed by an architectural historian that meets the Secretary of the Interior's standards for an architectural historian.
31. Please provide copies of completed Department of Parks and Recreation 523 forms for any structures more than 45 years old identified as a result of the architectural and structural inventory. Each form should provide a discussion of the significance of the building or structure under CEQA Section 15064.5, (a), (3), (A)(B)(C) & (D). The discussion should include a statement of significance, the period of significance, the defining characteristics of the resource, and details of the aspects of integrity (location, design, setting, materials, workmanship, feeling, and association (CCR Title 14, Chapter 11.5, Section 4852(c))). The forms should be completed by an architectural historian that meets the Secretary of the Interior's standards for an architectural historian.
32. Please provide a characterization of the areas in the vicinity or the project linears (how old, industrial, residential, etc.)

BACKGROUND

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The applicant referred to figures 8.3-2 and -3 (replacement page 8.3-5) depicting the ethnographic boundaries. Figure 8.3-2 is a map of the triblet boundaries. Figure 8.3-3 is a map showing the location of the trench containing remnants of the 19th Century powder magazine. The applicant also refers to figure 8.3-4 (replacement page 8.3-10) depicting a trench dug outside of the current project.

DATA REQUEST

33. Please provide the required figures to match the text or amend the text to accurately reflect the figures provided.

BACKGROUND

The applicant provided a map depicting the Area of Potential Effect (APE) for the project. However, there was no detailed description of the APE in the text indicating the size of the APE for each component of the project. This information is necessary for staff to complete the analysis.

DATA REQUEST

34. Please provide a detailed description of the APE.

BACKGROUND

The applicant indicates in Section 8.3.4, Mitigation Measures, that "With appropriate consultation by a qualified archeologist, this impact will be mitigated to a less-than-significant level."

DATA REQUEST

35. Please explain what appropriate consultation means and how this will mitigate the impact to less-than-significant.

BACKGROUND

The applicant discusses several topics within the Section on Mitigation Measures. These include CULT-1 TESTING, CULT-2 DATA RECOVERY, and CULT-3 CONSTRUCTION MONITORING. Testing of the archeological deposits is proposed to be accomplished by mechanical borings prior to construction, in both the plant area and the transmission line route. The data recovery will be completed prior to any excavation in areas where archeological deposits of scientific value can not be avoided by the project. Monitoring will then be conducted in areas that additional significant deposits might be found that were not identified in the testing.

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36. Is the area that needs to be tested accessible?
37. If the area is accessible, please conduct testing to identify the presence or absence of archeological deposits within the plant area and the transmission line route. Provide a report documenting the methodology of the testing and a quantitative and qualitative analysis of the results of the testing.
38. If archeological deposits are identified, please provide in the report a discussion of the significance of the site under CEQA Section 15064.5, (a), (3), (A)(B)(C) & (D), including the research values that are contained in the deposits and the associated research questions that could be answered through data recovery.
39. If either the plant area or the transmission route is inaccessible, please explain why the testing can not be accomplished at this time.
40. If the plant area or the transmission line route is inaccessible and will not be accessible until construction, please provide a detailed research design and implementation plan that identifies research values that might be important if deposits are identified during monitoring procedures and the methodology for recovering the information values.

TECHNICAL AREA: Traffic and Transportation
AUTHOR: James Fore

BACKGROUND

To determine the impact that the Potrero Power Plant (Potrero PP) project will have on traffic, the total workforce needs to be considered. Table 8.8-8 is a projection of the monthly manpower needs. It appears that this table accounts for only the manpower needs associated with the expansion of the power plant and does not account for the manpower needs for the offsite underground transmission line.

DATA REQUEST

41. Please identify the manpower needs for the plant expansion, auxiliary facilities onsite, and the offsite underground transmission line.

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BACKGROUND

Table 8.8-8 (Projected Monthly Manpower by Craft) indicates a maximum workforce of 287 in month 14 of the construction process. This would correspond to 574 vehicle trips if each individual drove to the site. Table 8.10-5 (Construction Trip Generation for the Potrero Power Plant) indicates the maximum daily trips at 275. The Trip Generation Section of the AFC pages 8.10-13 and 8.10-14 indicates that the maximum number of daily trips was used for the evaluation. This section also indicates that for the maximum number of daily trips, it was assumed that half of the traffic generated trips caused by construction would arrive during the a.m. peak with the other half arriving at the p.m. peak traffic hour.

DATA REQUEST

42. Please explain why the maximum number of daily trips used does not correspond to the 574 vehicle trips that would occur if each individual drove to the site. Explain why half of the daily trips occurred in the a.m. and the other half in the p.m. Is the construction process using two shifts? If so what is the expected work schedule for those leaving and arriving at the construction site?

BACKGROUND

The discussion of the operation of the power plant indicates that aqueous ammonia will be delivered to the Potrero PP by means of tanker trucks. At the rate of one tanker truck every five days.

DATA REQUEST

43. Please provide information about the expected truck route to the Potrero PP and any traffic hazards that may exist along the route (such as sharp turns, unmarked railroad crossing, intersections without signals or signs, etc.).

BACKGROUND

Section 2.0 (Project Description) page 2-28 indicates that the heavy equipment delivery may be by rail.

DATA REQUEST

44. If rail lines are to be used for the transportation of heavy equipment for the project, please provide the location where the loading and transfer of the cargo to trucks will occur and the truck route to the plant site.

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BACKGROUND

AFC page 8.11-24 indicates that the new unit will have two 180-foot-high exhaust stacks. The new facility is to be located on a pad that will be 13 feet above sea level. This would place the top of the stacks at 193 feet. Figure 2-3 in the AFC indicates that the top of the stacks will be at an elevation of 205 feet. The location of the Potrero PP to regional airports could result in the stacks being an obstruction in navigable airspace.

DATA REQUEST

45. Please indicate the elevation of the top of the stacks above sea level and if the stacks will require approval from the Federal Aviation Administration (FAA) for lighting and marking. If FAA approval is required please provide information on when the filing of the appropriate forms with the FAA will occur.

BACKGROUND

The AFC indicated that the construction workers for the underground transmission line would travel to the work site by ride sharing from the contractors trailer site and that travel to and from the contractors site would not impact traffic as this would occur at off-peak periods.

DATA REQUEST

46. Please indicate the location of the contractors trailer site and the accommodations that will be made for parking. Please provide the construction and work schedules for the underground transmission line.

TECHNICAL AREA: Visual Resources

AUTHOR: Michael Clayton and Gary Walker

BACKGROUND

The discussion of Sphere of Influence (SOI), Section 8.11.1.2, on page 8.11-2 of the Visual Resources section states that:

“The potential for vapor plumes emanating from the proposed stacks was not considered when determining the SOI because this vapor would only occur occasionally under certain atmospheric conditions (i.e., cool temperatures, no fog, and low wind speed).”

In addition, page 8.11-25 of the Visual Resources section states that:

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“...a vapor plume (water condensation) occasionally forms at the top of the existing exhaust stack” and that “the proposed exhaust stacks would likely have similar vapor plumes.”

However, the AFC does not provide quantified calculations of the size, duration and frequency of the plumes.

DATA REQUEST

47. Please provide the following information regarding the Heat Recovery Steam Generator (HRSG) stack plumes. (Please specify whether the calculations are for each stack or for both stacks. If the calculations are for each stack, please estimate the combined effect for both stacks).
- a. Quantified estimates of the expected maximum and average height and width.
 - b. The data, assumptions, and calculations used to derive these estimates, including the model used.
 - c. Quantified estimates of the expected frequency of occurrence and duration, specifying:
 - i) the number of hours that the plumes will be visible, for each hour of the day per year;
 - ii) the total number of hours per year that the plumes will be visible;
 - iii) the percentage of the total number of hours per year that the plumes will be visible;
 - iv) the number of daylight hours per year that the plumes will be visible;
 - v) the percentage of daylight hours per year that the plumes will be visible; and
 - vi) the data, assumptions, and calculations used to derive these estimates, including the model used.
 - d. Please calculate the values requested in “a” and “c” above to eliminate periods when fog occurs.
 - e. Please calculate the values requested in “a” and “c” above to eliminate periods when visibility will be reduced to less than specified distances (such as less than one mile and less than three miles).

BACKGROUND

The Visual Resources section of the AFC (p.8.11-2) states that “A computer viewshed analysis was conducted (using a 90-meter grid cell resolution, generated from

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1:250,000 Digital Elevation Model (DEM) data from the USGS) to map the boundaries of the SOI [sphere of influence] within the 5-mile limit.” The use of digital elevation models in determining viewshed boundaries in an urban environment is somewhat problematic due to the significant amount of view screening that typically occurs, and for which the models generally do not account for. Figures 8.11-1 and 8.11-2 indicate that a significant portion of San Francisco including residential areas and the downtown core are currently affected by the existing project and would be affected by the proposed project. However, since a substantial portion of the area within the mapped SOI would not have views of the site due to building/occupant view orientation and structural screening, Figures 8.11-1 and 8.11-2, as currently presented, are somewhat misleading and of limited use in aiding the reader’s understanding of actual project visibility.

DATA REQUEST

48. In order to enhance the informative nature of the viewshed maps, please revise Figures 8.11-1 and 8.11-2 as follows:

- a. Retain the 5-mile boundary
- b. Subdivide the gray SOI areas into the three distance zones (foreground, middleground, background) using three different colors.
- c. Further subdivide the distance zones into view areas as necessary to more accurately characterize the actual view of the site from those specific sub areas. For each view area, describe types of land uses/structures, view orientations, type and extent of screening, likely view scenarios (e.g., upper-level residences with south facing views; higher floor east to south facing offices with unobstructed views; south-bound street and pedestrian traffic).
- d. Reference city districts as appropriate (Hunters Point, Bayview, Bernal Heights, Potrero, Diamond Heights, Twin Peaks, Haight, South of Market, Downtown/Financial, Civic Center, Nob Hill, Western Addition, Pacific Heights, Chinatown).
- e. Enlarge figures from 8 1/2” x 11” to 11” x 17” to provide more detail.

BACKGROUND

The Visual Resources section of the AFC (p.8.11-7) states that six Key Observation Points (KOPs) were selected to represent the sensitive views most likely to be impacted by the project. It is acknowledge that in some of the view areas it is difficult to gain public access to locations that adequately capture the representative views from these sensitive areas. However, three of the KOPs (No. 1 – Potrero Hill Recreation Center Neighborhood, No. 4 – Hunter’s Point Neighborhood, and No. 5 – Bernal Heights) do not appear to adequately represent the views from the residential areas that would be most impacted by the proposed project.

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KOP 1 does present the most open view of the project from the eastern access path to the Potrero Hill Recreation Center. However, the project site can be seen from very little of the Recreation Center property due to topographic and vegetation screening. The narrative description of the existing visual setting for this KOP (p. 8.11-7) which is also intended to represent the surrounding neighborhood characterizes views as “partially screened” or “limited due to screening.” However, the residential neighborhood to the east of (and below) the Center property has foreground frontal, direct views of the project site. When viewed from the project site, it is clear that a substantial number of these residences have views of the project site that are unobstructed either by vegetation or other existing structures (including the American Industrial Center). The elevated perspective of this neighborhood also facilitates visual access to the project site. A view more representative of that experienced by the neighborhood to the east and below the Recreation Center is needed and could probably be obtained in the vicinity of the intersection of Missouri and 23rd.

KOP 4 at Hunter’s Point appears to be located on a grassy, undeveloped parcel in the vicinity of Hilltop Park. The simulation presented as Figure 8.11-11 shows the proposed project partially obscured by treetop vegetation. As described on page 8.11-9, views from this area “are primarily open,” and many of the residential areas will have unobstructed views of the project site. On this basis, the simulation is not considered representative of the visual impact that would occur to many of the Hunter’s Point residences and a relocation of KOP 4 is warranted.

KOP 5 at Bernal Heights appears to be located along the pathway of the community garden, just above Brewster. The view is framed by considerable vegetation and views from the area are described as partially screened by trees (p. 8.11-10). Many of the hillside residences in the Bernal Heights neighborhood will have open, direct, and unscreened views of the project site. On this basis, the images provided as Figures 8.11-13 and 8.11-14 are not considered representative of the view and visual impact that would occur to many of the neighborhood residences and a relocation of KOP 5 is warranted.

Also, several of the KOP images are presented at less than “life-size” scale, which understates the prominence of visible features as well as potential visual impacts. KOP 1 is presented at approximately 0.75 life-size scale (see **Attachment 1** for the life-size view from this KOP location). KOP 2 is presented at approximately 0.85 life-size scale (see **Attachment 2** for the life-size view from this KOP location). KOP 3 was not evaluated for scale accuracy. KOP 4 is presented at approximately 0.88 life-size scale (see **Attachment 3** for the life-size view from the vicinity of this KOP location). KOP 5 is presented at approximately 0.73 life-size scale (see **Attachment 4** for the life-size view from this location). KOP 6 was not evaluated for scale accuracy.

DATA REQUESTS

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49. Please establish an additional KOP near the intersection of Missouri and 23rd (or other appropriate location) to more accurately capture the representative view experienced by the residential neighborhood (along Missouri, Watchman Way, and Turner Terrace) to the east of and below the Potrero Hill Recreation Center. The view to the project site must be unobstructed by either vegetation or structures. The setting and photosimulation images must be at "life-size" scale. Please provide five sets of high quality 11"x17" color images of the existing view and simulation.
50. Please revise the location of KOP 4 to more accurately capture the representative view of the project site from the Hunter's Point neighborhoods. The revised KOP location must provide a direct view of the project site that is unobstructed by vegetation or structures. Attachment 3 provides a less obstructed view of the site as an example (taken from Hudson and the Ardath Ct. steps) though even more open views should be available in the vicinity. The setting and photosimulation images must be at "life-size" scale. Please provide five sets of high quality 11"x17" color images of the existing view and simulation.
51. Please revise the location of KOP 5 to more accurately capture the open view of the project site that would be available to the Bernal Heights neighborhood. The setting and photosimulation images must be at "life-size" scale. Please provide five sets of high quality 11"x17" color images of the existing view and simulation.
52. Please re-scale Figures 8.11-5 and 8.11-6 (KOP 1) to achieve life-size scale. Each image will need to be scaled up by approximately 33%. Please provide five sets of high quality 11"x17" color images of the existing view and simulation.
53. Please evaluate the image scale for KOPs 3 and 6 (Figures 8.11-9 and 10 and Figures 8.11-15 and 16). If image scale is less than 0.85 of life-size, please re-scale the images to life-size and provide five sets of high quality 11"x17" color images of the existing view and simulation.
54. Under the discussion for each KOP, please identify the precise location of each KOP.

BACKGROUND

Three key viewing areas lacking representation by a KOP are (1) views from San Francisco Bay, (2) views from Pacific Bell Park, and (3) views from the northern portion of the SOI encompassing the office, hotel, and residential high-rise buildings of the downtown Financial and South of Market districts.

A view from San Francisco Bay is important due to the substantial recreational boating that occurs off the city's eastern waterfront. Boating along the waterfront is popular specifically because of the available views of the city skyline and because of the shelter provided when winds become excessive in central San Francisco Bay. Also, the Bay waters off the eastern city front are crossed by the many boats from the Peninsula marinas that are headed north to central San Francisco Bay.

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A view from the newly constructed Pacific Bell Park is important because it is one of the area's premier destination sites. As illustrated in **Attachment 5**, a substantial number of the seats in Pacific Bell Park, particularly in the 2nd and 3rd tiers, are afforded direct, unscreened views of the project site and the existing stack is a prominent landmark on the middleground horizon.

A representative view from the high-rise Downtown/South of Market area is important because of the large number of people (office and hotel occupants and residents) that are afforded panoramic and vista views encompassing the project site.

DATA REQUESTS

55. Please establish three additional KOPs as follows: (1) a westerly foreground view from San Francisco Bay, immediately east of the project site (image location should show the cooling water intake structure and other proposed facilities and minimize screening of proposed structures by existing structures); (2) a south view of the project site from Section 328 of Pacific Bell Park; and (3) a south view toward the project site from a South of Market high-rise (upper floor).
56. Please provide an analysis of each of the three new KOPs equal to that of the original six KOPs and incorporate the analytical results into the appropriate sections of the AFC Visual Resources section.
57. Please provide five sets of high quality 11" x 17" color images of the existing setting and photosimulation for each of the three KOPs identified in Visual Resources Data Request 16 above. The images must be at "life size" scale.
58. Under the discussion for each new KOP, please identify the precise location of each KOP.

BACKGROUND

The Visual Resources section of the AFC (pp.8.11-7 through 8.11-11) describes visually sensitive areas and related KOPs. Each of the KOP discussions makes reference to local streets.

DATA REQUESTS

59. Please provide five sets of Figure 8.11-4 at 11" x 17" revised to show the approximate boundaries of each of the sensitive view areas, and with names of the streets and highways related to each of the KOPs. The map should be at an adequate scale (potentially 1:12,000) to identify street names.
60. Please add the revised KOP locations and the three new KOPs to Figure 8.11-4. If necessary, the map can be oriented to landscape format to allow the necessary geographic coverage and street detail.

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61. Please add the "Other Viewing Areas" locations (pp. 8.11-10 to 8.11-12) to Figure 8.11-4 using a different location symbol and keyed to a legend identifier (East Bay Shoreline can be excluded).

BACKGROUND

Staff needs information to independently verify the accuracy of the visual simulations provided in the AFC.

DATA REQUEST

62. Please provide sufficient information to allow an independent analyst to verify the accuracy of the visual simulations provided in the AFC. Please specify all assumptions, techniques, models, software programs, and reference points and features used to prepare the simulations.

BACKGROUND

The Visual Resources section of the AFC (p.8.11-5) defines the middleground distance zone as 1/2 to 3 miles. The discussion of 20th Street/Mississippi Street and Surrounding Neighborhoods (KOP #2) on page 8.11-8 describes middleground views as 3/4 to 1 mile.

DATA REQUEST

63. Please explain the discrepancy in the definition of the middleground distance zone on pages 8.11-5 and 8.11-8 and correct as appropriate.

BACKGROUND

In the Visual Resources methodology section of the AFC, duration of view is not included as a factor in assessing viewer sensitivity (p.8.11-4), and it is included in assessing visual impact severity (p.8.11-20).

DATA REQUEST

64. The discussion of 25th Street/Indiana Street, I-280, and Surrounding Neighborhoods (KOP #3) on page 8.11-9 identifies duration of view as a contributing factor to viewer sensitivity for KOP 3. Please resolve the apparent discrepancy between the use of duration of view as a factor in assessing viewer sensitivity for KOP 3 and the methodology for assessing viewer sensitivity.

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BACKGROUND

The discussion of Aqua Vista Park in Central Basin (p. 8.11-11) states that views of the site from the park “are fully screened by industrial development between the park and project site.” Based on a field reconnaissance it has been confirmed that the existing stack is visible from the park and presumably the upper portions of the proposed facilities would be also (see **Attachment 6**).

DATA REQUEST

65. Please clarify the apparent discrepancy between the view of the project site available from Aqua Vista Park (as presented in Attachment 6) and the description of the view presented on page 8.11-11. Please revise the text as appropriate.

BACKGROUND

In the discussion of views from Yerba Buena Island and the Bay Bridge (p. 8.11-12), it is stated that site visibility is often limited by haze, smog, or fog.

DATA REQUEST

66. Please identify the number of days per year that haze, smog, or fog would limit visibility of the site from Yerba Buena Island and the Bay Bridge. Please identify the percentage of total visible hours that would be subject to conditions of limited visibility.

BACKGROUND

In the discussion of views from the Bay Bridge (p. 8.11-12), the AFC states that “the proposed project would be considered part of the background views (3 miles).” The western end of the Bay Bridge is approximately 2.5 miles from the project site, which would place the project site within the middleground distance zone. This is also the portion of the bridge with the least amount of bridge infrastructure that could potentially obscure the site.

DATA REQUEST

67. Please recalculate the project distance zone as viewed from the west end of the Bay Bridge. If the description of the setting should be revised, please determine whether or not the impact discussion should also be revised. If not, please explain why not.

BACKGROUND

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The Visual Resources section of the AFC (p.8.11-21) states that “assessment of the level of visual modification includes all visual effects typically seen during daylight conditions” including motion factors such as vapor plumes. However, vapor plumes could also be quite visible at night if they are illuminated by the existing or proposed lighting. Page 8.11-25 of the Visual Resources section states that a vapor plume occasionally forms at the top of the existing exhaust stack and that “the proposed exhaust stacks would likely have similar vapor plumes.”

Section 8.11.2.1.1 lists night-lighting effects as one of the influences on visual impact severity (p.8.11-22). Page 8.11-5 of the Visual Resources section also lists “lighting (daylight versus nighttime)” as a variable potentially affecting project visibility. And the discussion of landscape character/image types on page 8.11-6 states that “lights associated with the existing facility emit a low-intensity amber color. While generally not disruptive to nighttime views, they do increase the overall visibility of the plant during nighttime hours.”

While the impact discussions of each KOP include brief statements as to the general noticeability of additional lights that would be needed and their similarity to existing lights in the surrounding area (pp. 8.11-26 to 8.11-29), there is no discussion as to the visibility of the proposed project components as a result of nighttime illumination.

Due to the foreground to middleground proximity of the project site to a number of residential neighborhoods, it is important to assess nighttime visibility of the proposed project including vapor plumes.

DATA REQUESTS

68. Please describe the existing lighting sources and level in the vicinity of the proposed project site.
69. For each KOP please describe the existing nighttime visibility of the project site including the existing stack and the extent to which existing lights are visible at the site.
70. For each KOP please describe the level of lighting for the proposed project and the visibility of the proposed project components including the exhaust stacks and vapor plumes due to illumination from the combination of existing and proposed lighting.

BACKGROUND

Section 8.11.2.3 Visual Impact Assessment Results (p. 8.11-25) states that “...short-term [construction] impacts would be due primarily to the activity of construction equipment (e.g., cranes, scaffolding, temporary lighting, etc.), and dust.” It is staff’s experience that construction lighting is typically very bright, shines in a variety of directions, and is not shielded.

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DATA REQUEST

71. Please describe if and how construction lighting will be limited to the immediate area where construction activities are occurring and whether shields and/or screening will be used or not.

BACKGROUND

Due to the foreground proximity of the Potrero Hill residential neighborhood to the east of Potrero Hill Recreation Center, staff is concerned about the potential visual impacts of the project during nighttime hours from the view area to be represented by the new KOP requested in Visual Resources Data Request No. 50, particularly with respect to nighttime illumination of the proposed exhaust stacks and upper building façade.

DATA REQUESTS

72. Please provide five sets of 11' x 17" high-quality color photocopies of a nighttime photograph at life-size scale of the existing view toward the proposed site from the new KOP location requested in Visual Resources Data Request No. 50.
73. Please provide five sets of 11" x 17" high-quality color photocopies of a nighttime visual simulation at life-size scale of the proposed project as viewed from the new KOP location requested in Visual Resources Data Request No. 10, including proposed lighting.
74. Please provide five sets of 11" x 17" high-quality color photocopies of a nighttime visual simulation at life-size scale of the proposed project as viewed from the new KOP location requested in Visual Resources Data Request No. 50, including proposed lighting and vapor plume.
75. Please provide quarterly and annual windroses for the project site.

BACKGROUND

The Visual Resources section (p.8.11-23) defines "long-term" as lasting longer than one year. Visual Resources section 8.11.2.2 (p.8.11-24) also states that "Short-term aspects (e.g. construction) of the project are not considered in detail here."

DATA REQUEST

76. Project construction is scheduled to last for 24 months (AFC p.1-3). Given the definition of long-term as lasting longer than one year, should construction aspects be considered long-term? If so, please revise the Visual Resources section as appropriate.

BACKGROUND

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(00-AFC-4)

The Visual Project Description presented on page 8.11-25 states that “Other features associated with the project, including parking areas, fencing, and lighting, will be designed to minimize visual contrast with the existing site and industrial surroundings.”

DATA REQUEST

77. Please describe the design concepts or details that will be employed to minimize the visual contrast of the parking areas, fencing, and lighting with the existing site and industrial surroundings.

BACKGROUND

Visual Resources section 8.11.2.3 of the AFC (p.8.11-25) states that:

“Short-term high impacts resulting from construction are likely to result to the residences and parks located to the west, north-west, and south of the proposed project. These short-term impacts would be due primarily to the activity of construction equipment (e.g., cranes, scaffolding, temporary lighting, etc.), and dust.”

DATA REQUEST

78. Please discuss potential mitigation measures to minimize these short-term impacts.

BACKGROUND

Page 8.11-25 of the Visual Resources section states that a vapor plume occasionally forms at the top of the existing exhaust stack and that “the proposed exhaust stacks would likely have similar vapor plumes.” Due to the foreground proximity of the Potrero Hill residential neighborhood to the east of Potrero Hill Recreation Center, staff is concerned about the potential visual impacts of the plume on the neighborhood to be represented by the new KOP requested in Visual Resources Data Request No. 50.

DATA REQUESTS

79. Please provide five sets of 11' x 17" high-quality color photocopies of a visual simulation at life-size scale of the proposed project with exhaust stack vapor plumes of typical dimensions (expected to occur 50% of daylight no-fog hours) as viewed from the new KOP location requested in Visual Resources Data Request No. 50.

80. Please provide five sets of 11' x 17" high-quality color photocopies of a visual simulation at life-size scale of the proposed project with reasonable worst case exhaust stack vapor plumes (expected to occur 10% of daylight no-fog hours) as viewed from the new KOP location requested in Visual Resources Data Request No. 50.

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BACKGROUND

The impact discussion for KOP 5 at Bernal Heights (p. 8.11-29) contains no discussion of lighting.

DATA REQUEST

81. Please describe the level of lighting for the proposed project and the visibility of the proposed project components from KOP 5 including the exhaust stacks and vapor plumes due to illumination. Please specify plume size and how much of the plume would be visible due to illumination for both typical and reasonable worst case plumes.

BACKGROUND

The impact discussion for KOP 3 at 25th Street/Indiana Street (p. 8.11-28) states the following:

“...high impacts would occur for upper-level residences with open views toward the project site and East Bay. The proposed building and exhaust stacks, seen in [the] foreground, would appear co-dominant with existing generation facilities, and in particular would block views of a substantial portion of the ridgeline of the East Bay hills. As shown in Figure 8.11-10, the proposed building would block the skyline of the East Bay Hills from these elevations...the total amount of view blockage would increase noticeably relative to current conditions. Overall, initial visual impacts are considered to be potentially significant.”

The impact discussion for KOP 3 concludes on the same page with the statement: “Potential visual contrasts and view blockage resulting from the proposed project would not be reduced sufficiently to lower impacts to a less-than-significant level.” However, the Summary of Visual Impacts presented as Table 8.11-3 (p. 8.11-51) indicates that there will be no significant visual impacts following mitigation at KOP 3.

DATA REQUEST

82. Please clarify the inconsistency between the discussion of visual impact significance for KOP 3 in the text (significant visual impact) and identification of no significant visual impact for KOP 3 in Table 8.11-3.

BACKGROUND

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The impact discussion for KOP 5 at Bernal Heights (p. 8.11-29) states that “low impacts would occur to views from residences on lower levels or those oriented east because the noticeable modifications to views would be intermittent.”

DATA REQUEST

83. Please explain what is meant by “intermittent” in relation to views from residences.

BACKGROUND

The impact discussion of Aqua Vista Park in Central Basin (p. 8.11-30) states that “The proposed building façade and exhaust stacks would not be noticeable from this area because industrial structures between this park and the project site block views of the project.” Based on a field reconnaissance it has been confirmed that the existing stack is visible from the park and presumably the upper portions of the proposed building façade and exhaust stacks would be also (see **Attachment 6** and Visual Resources Data Request No. 26).

DATA REQUEST

84. Please reevaluate the potential visual impacts to Aqua Vista Park in light of project visibility as documented in Attachment 6 and revise the discussion on page 8.11-30 as appropriate. If no change to the discussion is deemed warranted, please explain why.

BACKGROUND

The impact discussion for Pacific Bell Park (p. 8.11-30) states that “The proposed building façade and exhaust stacks may be noticeable from some higher locations inside Pacific Bell Park.” The same discussion also states that “views from within the Park would focus on the field below, resulting in low impacts.” Based on a field reconnaissance, it has been determined that the proposed project would be visible from Pacific Bell Park and that the existing stack provides a prominent landmark on the horizon (see **Attachment 5**).

DATA REQUEST

85. Given the request for establishment of a KOP at Pacific Bell Park (Visual Resources Data Requests Nos. 56 through 59) please revise the impact discussion for Pacific Bell Park accordingly.

BACKGROUND

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The impact discussion for Downtown San Francisco (p. 8.11-31) states that “The proposed project would be noticeable to not noticeable” and that “Impacts would be low, and therefore, less than significant.”

DATA REQUEST

86. Given the request for establishment of a KOP in Downtown San Francisco (Visual Resources Data Requests Nos. 56 through 59) please revise the impact discussion for Downtown San Francisco accordingly.

BACKGROUND

The impact discussion for San Francisco Bay (p. 8.11-31) states that “The proposed building façade and exhaust stacks would range from noticeable to not noticeable” and that “The project would result in low impacts to views because it is viewed only intermittently and is located within a primarily industrial setting.”

As previously stated in the background discussion to Visual Resources Data Request No. 56, boating along the city’s eastern waterfront is popular specifically because of the available views of the city skyline and because of the shelter provided when winds become excessive in central San Francisco Bay. Also, the Bay waters off the eastern waterfront are crossed by the many boats from the Peninsula marinas that are headed for central San Francisco Bay.

DATA REQUEST

87. Given the request for establishment of a KOP in San Francisco Bay (Visual Resources Data Request Nos. 56 through 59), please revise the impact discussion for San Francisco Bay accordingly.

BACKGROUND

Proposed specific mitigation measure VIS-4 (p. 8.11-34) states that:

“Exterior lighting will be limited to areas required by regulations, operation, and safety...A higher proportion of lighting will be directed and/or shielded to reduce glare towards sensitive viewers.”

DATA REQUESTS

88. Please explain why only a higher proportion of lighting and not all lighting will be directed and/or shielded to reduce glare towards sensitive viewers.

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89. Please explain whether the applicant will agree to use lighting controls such as switches and motion sensors to further reduce lighting impacts by minimizing lighting of areas that do not require constant lighting during nighttime hours.

BACKGROUND

Proposed specific mitigation measure VIS-5 (p. 8.11-34) states that:

“landscaping within Warm Water Cove Park, including substantial planting of trees and shrubs, will be used to filter and screen views toward the proposed project, and instead focus views on the Bay.”

The consistency discussion for Objective 3, Policy 1 of the Recreation and Open Space Element of the San Francisco Master Plan (p. 8.11-38) states that:

“Mitigation Measure VIS-5, landscaping of Warm Water Cove Park, will mitigate adverse effects by enhancing visual and physical access to the Bay.”

The consistency discussion for Objective 3, Policy 4 of the Urban Design Element of the San Francisco Master Plan (p. 8.11-40) states that:

“...landscape improvements made as mitigation (VIS-5) would ensure improvements to the visual quality and integrity of the open space at Warm Water Cove Park.”

DATA REQUESTS

90. Please describe the planting plan for Warm Water Cove Park including the types and locations of trees and shrubs. Also, describe how the planting will improve the visual quality and integrity of the open space and how the landscaping will enhance visual and physical access to the Bay.

91. Please provide five copies of a map that shows the proposed landscaping elements at Warm Water Cove Park.

BACKGROUND

Proposed specific mitigation measure VIS-6 (p. 8.11-34) provides for:

“Additional landscaping and provision of street trees along 23rd Street east of Third, to improve the approach to the plant site and to help screen the switchyard facilities at the west end of the site.”

Since measure VIS-6 is part of the mitigation package for all of the project impacts identified for KOP 3 and 25th Street/Indiana Street and Surrounding Neighborhoods (see

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Table 8.11-3, p. 8.11-51), it is important to see an example of its implementation in order to accurately gauge the effectiveness of the measure.

DATA REQUESTS

92. Please provide five sets of 11" x 17" high-quality color photocopies at life-size scale of a visual simulation of the VIS-6 planting measure at five years of age for KOP 3. The VIS-6 planting simulation should be batched on the same page with the existing view photograph in order to assess the effectiveness of the measure.
93. Please provide five sets of 11" x 17" high-quality color photocopies at life-size scale of a visual simulation of the VIS-6 planting measure at maximum height (if different from five years of age) for KOP 3. The VIS-6 maximum planting height simulation should be batched on the same page with the five years of age simulation.
94. Please specify the types of trees to be used in the VIS-6 measure and specify the height of the trees at five years of age and at maximum height. Also, please specify the age assumed for maximum height.

BACKGROUND

Mitigation Measure VIS-7 (p. 8.11-34) provides for:

"Additional design treatment of the building façade, to reduce height of the roof in places, step down the corners of the building to reduce view blockage in eastward views toward the Bay, and increase community recognition of the historic design authenticity of the building..."

Since measure VIS-7 is part of the mitigation package for every identified project impact except two (Warm Water Cove and Aqua Vista Parks [see Table 8.11-3]), and because of the importance of measure VIS-7 in achieving LORS compliance (specifically Objective 1, Policy 1 of the Commerce and Industry Element of the San Francisco Master Plan [SFMP]; Objective 1, Policies 1 and 6 of the Urban Design Element of the SFMP; and Objective 10, Policy 2 of the Central Waterfront Area Plan of the SFMP, it is important to see examples of its implementation in order to accurately gauge the effectiveness of the measure.

DATA REQUESTS

95. Please provide five sets of 11" x 17" high-quality color photocopies at life-size scale of a visual simulation of the VIS-7 design treatment as viewed from the new Potrero Hill neighborhood KOP location specified in Visual Data Request No. 10 above. The VIS-7 design simulation should be batched on the same page with the simulation of the originally proposed structure design in order to compare the two approaches.

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96. Please provide five sets of 11" x 17" high-quality color photocopies, at life-size scale, of a visual simulation of the VIS-7 design treatment as viewed from KOP 2. The VIS-7 design simulation should be batched on the same page with the simulation of the originally proposed structure design in order to compare the two approaches.

BACKGROUND

Policy 10 of the San Francisco Bay Plan (p. 8.11-36) states that:

"Towers, bridges, or other structures near or over the Bay should be designed as landmarks that suggest the location of the waterfront when it is not visible, especially in flat areas. But such landmarks should be low enough to assure the continued visual dominance of the hills around the Bay."

The AFC consistency statement regarding Policy 10 says:

"...the proposed project, including the building façade, will be designed with the minimum feasible height to minimize view blockage of the Bay and of the East Bay hills."

However, the impact discussion for KOP 3 at 25th Street/Indiana Street (p. 8.11-28) concludes that:

"Potential visual contrasts and view blockage resulting from the proposed project would not be reduced sufficiently to lower impacts to a less-than-significant level."

DATA REQUEST

97. In light of the significant visual impact that would occur at KOP 3 due to view blockage, please explain how the project could also be consistent with Policy 10.

BACKGROUND

Objective 3, Policy 1 of the San Francisco Master Plan Recreation and Open Space Element (p. 8.11-38) states:

"Assure that new development adjacent to the shoreline...improves visual and physical access to the water."

However, as discussed above, significant view blockage would occur for KOP 3 at 25th Street/Indiana Street (p. 8.11-28),

DATA REQUEST

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98. In light of the significant visual impact that would occur at KOP 3 due to view blockage, please explain how the project could also be consistent with Objective 3, Policy 1 of the San Francisco Master Plan Recreation and Open Space Element.

TECHNICAL AREA: Reliability
AUTHOR: Steve Baker

BACKGROUND

Redundancy of critical equipment is necessary to provide adequate reliability. Section 2.4.3 of the AFC states there will be two 100% air compressors, but Table 2-19 states there will be three 50% air compressors.

DATA REQUEST

99. Please provide the actual configuration.

BACKGROUND

A reliable supply of water is necessary to provide adequate reliability. Section 7.1 of the AFC describes how Unit 7 will nearly double the demand on the City of San Francisco potable water supply system, then concludes that this is expected to provide sufficient capacity.

DATA REQUESTS

100. Please explain why the supply is expected to be sufficient.

101. Please provide concurrence by the City of San Francisco that the supply is expected to be sufficient.

TECHNICAL AREA: Efficiency
AUTHOR: Steve Baker

BACKGROUND

Adequate supplies of natural gas fuel for the project are essential. Section 2.4.4 of the AFC states that the existing "...gas supply pipeline has sufficient capacity to supply the existing Unit 3 at Potrero and the proposed Unit 7."

DATA REQUEST

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102. Please provide information whether this line has sufficient capacity to also supply the peaking Units 4, 5 and 6. If it does not, please describe the shortfall and how this will affect operation of the facility.

BACKGROUND

An adequate means to transport natural gas fuel to the project is also essential. Section 2.2.5 of the AFC describes the connection and its limitations (i.e., insufficient gas unless the Hunters Point Power Plant is shut down). Appendix I lists other projects that may create cumulative impacts (and does not address the United Golden Gate Power Project).

DATA REQUESTS

103. Please provide the following information about the existing PG&E gas systems:
- A. Where does the system get its gas?
 - B. Is the source in A. above an adequate source of supply for the project and cumulative projects? If so, please state how this can be concluded.

TECHNICAL AREA: Geology and Paleontology
AUTHOR: Robert Anderson

BACKGROUND

The applicant has identified that the site is located within the Hunters Point Shear Zone. This zone is a low angle fault zone that encompasses the site and trends to the northwest (following the structural trend of many of the San Francisco Bay Area faults).

DATA REQUEST

104. Please delineate on the AFC's regional and site geologic maps the location and lateral extent of the Hunters Point Shear Zone.

BACKGROUND

The California Building Code (CBC) supplements the Uniform Building Code (UBC).

DATA REQUESTS

105. Please revise Table 8.15-2 by deleting the statement "Superseded by the UBC".

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106. Please insert in the "Applicability" column of Table 8.15-2 a statement that the CBC is the California supplement for the UBC.

BACKGROUND

The AFC has identified that the highest peak ground accelerations that would be expected to occur at the site would result from a moment magnitude 7.9 earthquake that would occur on the San Andreas fault. However, the AFC did not indicate what is the expected peak horizontal ground acceleration for the project. The San Andreas fault is located about 8.5 miles west of the site. The AFC identifies the magnitude 7.9 earthquake as the maximum credible earthquake. This is not necessarily the maximum credible earthquake for the San Andreas fault, but perhaps clarification can be made that this magnitude value of 7.9 is only for one segment of the San Andreas fault (the closest fault segment to the project site).

DATA REQUESTS

107. Please discuss the selection of the magnitude 7.9 earthquake as the maximum credible earthquake, and state what is the peak horizontal ground acceleration for the project site, or reassess the design basis earthquake and its peak horizontal ground acceleration for the project site.

BACKGROUND

The AFC mentions a Phase II site investigation. From the information in Appendix E of the AFC, the Phase II site investigation appears to have been a Phase II environmental site assessment. It is Energy Commission staff's understanding that the applicant is aware of the California Division of Mines and Geology's Seismic Hazard Zones map for the southern half of the San Francisco Quadrangle.

DATA REQUESTS

108. Please provide clarification regarding the time of submittal of the liquefaction analysis with respect to the timeline for licensing of the project. Specifically, will the liquefaction analysis be submitted to the Energy Commission and to the City and County of San Francisco Department of Public Works before or after licensing of the project?

BACKGROUND

The intensity and the size of the design rainfall event for the project is not identified in the AFC.

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DATA REQUESTS

109. Please state the intensity and the size of the design rainfall event for the surface water drainage system.

TECHNICAL AREA: Noise

AUTHOR: Jim Buntin, Buntin-Brown Associates

BACKGROUND

Minor technical data in the analysis appear to be incorrect.

DATA REQUESTS - Please revise the following items:

110. Page 8.5-2, par. 5: Change "Equivalence" to "Equivalent"
111. Page 8.5-4, par. 4: The evening penalty for CNEL is 4.8 dB, or "approximately" 5 dB.
112. Table 8.5-2: This table (or the text) should include the calculated CNEL and Ldn values, which are 68.2 dB and 68.5 dB, respectively (using the last 24 hours of data.)
113. Table 8.5-5: According to our calculations, the A-weighted sound pressure level for the exhaust is 49.7 dB. The A-weighted sound pressure level for the generator is 49.5 dB. The total A-weighted sound pressure level is 58.6 dB.
114. Table 8.5-6: According to our calculations, the project-generated sound level at ML1 is 49.1 dB. The project-generated sound level at ML4 is 43 dB. The cumulative sound levels are correct.

BACKGROUND

In most cases, the Noise Element of the General Plan is the primary tool for deciding whether the noise associated with a project will be within acceptable limits. The analysis indicates that the City of San Francisco Noise Element standards are not relevant to the project.

DATA REQUESTS

115. Please describe the City of San Francisco Noise Element provisions for dealing with new industrial noise sources.
116. Please provide concurrence by the City of San Francisco that the projected project noise levels are in conformance with the Noise Element.

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BACKGROUND

A Noise Control Ordinance typically applies to all noise sources, not just construction, as assumed by the analysis. The table of noise standards, and the predicted project noise levels, indicate that there is the potential for a violation if those standards apply to the operation of the plant, specifically at the nearest residential area, and at the nearest industrial property line. (The noise ordinance may apply a correction for ambient noise levels, which will affect this determination.)

DATA REQUESTS

- 117. Please describe the City of San Francisco Noise Ordinance provisions for dealing with industrial noise sources.
- 118. Please provide concurrence by the City of San Francisco that the projected project noise levels are in conformance with the Noise Ordinance at the nearest residential and industrial boundaries.

TECHNICAL AREA: Transmission System Engineering
AUTHOR: Mark Hesters

BACKGROUND

Staff needs to completely identify downstream transmission facilities required by the interconnection of a new project. In order to determine whether or not downstream facilities are needed, staff requires a completed Preliminary Facility Study that: (1) identifies electric system impacts of the project, and (2) discusses mitigation measures considered and those proposed to maintain conformance with National Energy Regulatory Commission (NERC), Western Systems Coordinating Council (WSCC) and California Integrated System Operator (Cal-ISO) reliability or planning criteria. Any significant electric facilities identified by this study will require a full environmental analysis.

DATA REQUEST

- 119. Please provide: a complete interconnection study or indicate when one will be available. This study should demonstrate conformance with NERC, WSCC and Cal-ISO reliability or planning criteria based on load flow, post transient, transient and fault current studies. Where mitigation is required to ensure compliance with the previously mentioned criteria, provide the alternatives considered and the reasons for choosing a preferred alternative.

BACKGROUND

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The AFC included a one-line diagram of the Portrero Power Plant switchyard but did not diagrams of the new power plant's interconnection with the existing electrical network.

DATA REQUEST

120. Please provide one line diagrams of the existing Portrero and Hunters Point substations with and without the new Portrero Power Plant connections.

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BACKGROUND

The system analysis in the AFC discusses four primary benefits of the Portrero Power Plant Project (in the AFC there are 7 or 8 benefits listed and I have condensed them into four primary categories):

- I. Allows the Cal-ISO to reestablish the San Francisco Operating Criteria (SFOC) which protects key loads in San Francisco during major line outages.
- II. Could allow the City and County of San Francisco (CCSF) and Pacific Gas and Electric to fulfill their agreement to shut down the Hunters Point Power Plant (HPPP).
- III. Compared to other non-generation options that increase the power available to the CCSF and the Peninsula, the operation of Portrero Unit 7 will reduce losses on transmission lines.
- IV. Electricity production benefits that include potential fuel savings and reductions in the emissions of criteria air pollutants.

The first two are essentially procedural although the reestablishing the SFOC does have reliability benefits. The loss savings estimates in the AFC appear to be the result of a single generation scenario. Losses can change significantly based on the location of generation and usually multiple generation scenarios are used to estimate loss savings. A single generation scenario does not provide a robust loss analysis. The electricity production savings and associated emissions reductions will be dealt with elsewhere. There is a potentially significant benefit that the Portrero Unit 7 project could provide and that is the deferral or even replacement of potential transmission projects. The operation of both Portrero Unit 7 and the potential Golden Gate Expansion Project could obviate the need for any new transmission lines into the San Francisco area.

DATA REQUESTS

121. Please provide support data for the loss savings estimates, which includes generation from other power plants when Portrero Unit 7 is operating and when it is not operating.
122. If the GE PSLF model wasn't used to calculate losses please explain the algorithms used to calculate both the capacity and energy losses.
123. Please provide an outline of any other potential system benefits studies that might be completed at a future date.

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TECHNICAL AREA: Soil and Water Resources

AUTHOR: Dominique Brocard and Jim Henneforth

BACKGROUND

The water depth at the proposed cooling water diffusers is indicated on page 7-3 to be a minimum of 12 ft. The bathymetric data shown in Figure 7-5, however, suggests that at least one of the diffusers starts at a depth of about 9.5 ft. But more important is the fact that the modeling presented in section 8.14.2.2.4 assumes a minimum depth of 18.5 ft at the diffusers.

DATA REQUEST

124. Please provide the actual location of the diffusers on a bathymetric map referenced to Mean Lower Low Water (MLLW).

BACKGROUND

The minimum required water depth of 18.5 ft is said to correspond to a depth of 14 ft above the diffusers (p. 8.14-18). This implies that the discharge will be 4.5 ft above the bottom. As the diffuser pipe is to be 4.5 ft in diameter, this will require the diffuser pipe to be partially buried, to account for the port and duck-bill valve.

DATA REQUEST

125. Please provide a dimensioned drawing indicating the diffuser configuration.

BACKGROUND

The plume temperature rises presented in Section 8.14.2.2.4 require the establishment of a density-driven counterflow system, where ambient water flows towards the diffusers near the bottom and the plume flows away from the diffusers at the surface. Such a counterflow requires sufficient depth.

In particular, for such a counterflow to develop it is necessary that the sum of the squares of the densimetric Froude numbers of the two flow components be less than 1, i.e. $F_1^2 + F_2^2 < 1$. Where $F_1 = U_1 / [(\Delta\rho/\rho) g h_1]^{1/2}$ and $F_2 = U_2 / [(\Delta\rho/\rho) g h_2]^{1/2}$ in which U_1 = velocity in surface layer away from diffuser, $\Delta\rho/\rho$ = relative density difference between surface and bottom flows, h_1 = surface layer thickness, U_2 = velocity in bottom layer towards diffuser and h_2 = bottom layer thickness.

For the proposed design, the temperature rise in the flow away from the diffuser will be 3.1 °F. This implies that the flow away from the diffuser area in the upper layer will be $315,000 \text{ gpm} \times 20 / 3.1 = 2,032,258 \text{ gpm} = 4,529 \text{ cfs}$. The plume thickness is predicted

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to be 4.8 ft. Assuming a plume width of 100 ft, and equal flow on both sides leads to a flow away velocity of 4.7 ft/s. This velocity does not account for lateral spreading of the plume. To account for this spreading, as a first approximation, this velocity can be reduced by a factor of 2. With this reduction, the resulting densimetric Froude number of the surface layer, F_1 , is about 10. This indicates that the required counterflow is not possible for this water depth. Instead, the plume will be fully mixed over the water depth in the near field, a situation for which the UM model is not applicable. The inapplicability of the UM model relates to the fact that UM is primarily meant for wastewater outfalls, which have much smaller flows than cooling water outfalls and, consequently do not generally lead to fully mixed near fields. Also, for this application, UM was applied for a single diffuser, without accounting for the flow generated by the upstream diffusers.

The fact that the thermal plume would be fully mixed in the near field is not surprising for the relatively shallow water depth at the diffusers. A discussion of the above issue is provided in "*Multiport Diffusers for Heat Disposal: A Summary*", by Gerhard Jirka, ASCE Journal of the Hydraulics Division, Vol 108, No. HY 12, December 1982. Another relevant reference is "*Dilution Analysis for Unidirectional Diffusers*" by Eric Adams, ASCE Journal of the Hydraulics Division, Vol 108, No. HY 3, March 1982.

DATA REQUEST

126. Please provide an analysis of the diffuser plumes which is compatible with its proposed configuration, or modify the configuration.

BACKGROUND

It is stated that "the new diffuser system will produce no shoreline contact..." (Replacement page 8.14-21). This statement is not substantiated. Because the proposed diffusers have no net momentum, and are located relatively close to the shore, it is likely the plume will contact the shore, and the extent of the contact, as well as the corresponding shoreline temperature rises should be defined.

Further, the plume analyses which are presented are for slack conditions, and this may not represent the worst case. Because of tidal current reversals, the plume will flow back over the diffuser and be re-entrained, potentially leading to higher temperature rises.

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DATA REQUESTS

127. Please provide documentation of plume configurations and shoreline impact using appropriate tools such as a mathematical model.
128. Please consider replacing the proposed diffuser configuration by a “staged” diffuser, which would produce offshore momentum and minimize shoreline impacts. This type of diffuser is described in “*Near Field Mixing of Staged Diffuser*”, by Joseph Lee, ASCE Journal of the Hydraulics Division, Vol 106, No. HY 8, August 1980.

BACKGROUND

A port angle of less than 45 degrees above the horizontal may provide greater dilution (and greater offshore momentum if a staged diffuser is used).

DATA REQUEST

129. Please consider using a smaller port angle above horizontal and provide a response with the rationale for the decision to adopt or not adopt a smaller port angle.

BACKGROUND

The new Unit 7 cooling water intake and discharge system will replace the existing Unit 3 system and be designed to handle the cooling water for both units. This will require a new NPDES permit application. As part of staff’s analysis of the proposed project, it is necessary for a draft NPDES permit to be available prior to the Final Staff Assessment.

DATA REQUESTS

130. The NPDES Permit No. CA0005657 provided as Appendix B indicates that it expired on May 18, 1999. What is the current status of this permit?
131. Please provide a schedule for filing the application for the new NPDES permit as well as expectation as to when the permit is to be issued. Please provide a copy of the new NPDES application when it is filed. Also please provide all supplementary information requested by the Regional Water Quality Control Board staff.
132. Please identify the concentration of all priority pollutants identified in the Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays and Estuaries of California that may be discharged by the project into San Francisco Bay. These concentrations should be identified for each of the waste streams discharged to the bay identified in Table 2-9 of the AFC.

BACKGROUND

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The City of San Francisco will be providing the water for process and potable uses. As stated in the supplemental responses, the plant requirements are small compared to the total available resources of the city.

DATA REQUESTS

133. Please provide from the City of San Francisco documentation of their intention to serve the water requirements of the power plant.

BACKGROUND

Nonhazardous wastewater will be discharged to the City of San Francisco sewer system and must be within permissible discharge levels and characteristics specified by the Department of Public Works. Appendix O contains a copy of the current Permit No. 98-0009 to discharge wastewater and contains the current limitations and requirements.

DATA REQUEST

134. Please compare the wastewater pollutant parameter in each of the wastewater discharge streams from the plant with those limitations given in the current Permit No. 98-0009. Identify any revisions that may be imposed in a new permit from the Department of Public Works.

BACKGROUND

Section 316(b) of the Clean Water Act requires that "...the location, design, construction, and capacity of the cooling water intake structures reflect the best technology available for minimizing adverse environmental impact." The applicant has proposed a new intake structure with a design to meet BTA requirements and also states that the 316(a) and 316(b) studies will be part of the NPDES permit.

DATA REQUESTS

135. Please provide an update to the 1980 Potrero Power Plant Cooling Water Intake Study for Unit 3, explain why the results are still applicable to the new design for Units 3 plus 7, and update any advancements to the technologies considered in 1980 as well as those available currently. Furthermore, construction of the cooling water intake and the outfall structure will require a consolidated Dredging-Dredge Material Reuse/Disposal permit from the San Francisco Dredged Material Management Office. As part of staff's analysis of the proposed project, it is necessary for a draft dredging permit to be available prior to the Final Staff Assessment.
136. Please explain the scope of the 316(b) study to be performed for the NPDES permit and if it will address alternative intake technologies including but not limited to

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offshore versus onshore intake locations, behavioral barriers, diversion systems, physical barriers, and fish collection and conveyance.

137. Describe the construction methods to be used for the new intake structure and measures to be taken to minimize impacts.
138. Please provide a schedule for filing the application for the dredging permit as well as expectation as to when the permit is to be issued. Please provide a copy of the permit application when it is filed. Also please provide all supplementary information requested by the Dredged Material Management Office.

BACKGROUND

A stormwater and erosion/sediment control plan for the facility and all linear facilities is needed as part of the Storm Water Pollution Prevention Plan (SWPPP).

DATA REQUEST

139. Provide a stormwater and an erosion/sediment control plan for the facility and all associated linear facilities. The plan should include a detailed set of drawings that depict existing and proposed topography, structures, facilities, staging areas, and soil stockpile areas. BMP related facility locations as well as a construction sequence should be provided on the drawings. A mapping symbols legend should also be included on the drawings. The narrative should include stormwater calculations and vegetative stabilization procedures. As part of the SWPPP, provide a hazardous materials storage and disposal plan along with measures for spill prevention and containment. The plan should also identify maintenance and monitoring efforts for all erosion, stormwater runoff control and revegetation efforts.